its carboxyl terminus to an amino terminus of a V antigen from other Yersinia species having a V antigen homologous to Yersinia pestis V antigen] according to claim 1 further comprising a V antigen from other *Yersinia* species chosen from the group consisting of *Yersinia pseudotuberculosis* and *Yersinia enterocolitica*.

REMARKS

Reconsideration and allowance in view of the foregoing claim amendments and the following remarks are respectfully requested.

Claims 18-29 drawn to a nonelected invention have been cancelled. Claim 32 has been cancelled and its subject matter included in claim 31. Claim 31 has been amended to identify the species of *Yersinia* from which the V antigen is to be chosen. Support for the claim as amended is found on page 13, lines 15 and 16. Entry and consideration of the claims as amended are respectfully requested.

Claims 1-17, 30, and 31 are pending in the subject application.

Claims 31 and 32 stand rejected under 35 U.S.C. §112, first paragraph as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 32 has been cancelled. Claim 31 as amended is drawn to an invention described in the application as originally filed.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 11 stands rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make or use the invention with regard to pF1V. Applicants acknowledge the withdrawal of this rejection with respect to claim 15. Applicants will deposit plasmid pF1-V for patent purposes and will provide the deposit information when it is received.

Claims 1-3, 5-17, and 30 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over WO95/18231 (Titball *et al.* -'31) and further in view of: WO 95/24475 (Titball *et al.*-'75); or Leary *et al. Infection and Immunity* **63**: 2854-2858, 1995). This rejection is traversed in view of the following.

Titball et al.-'75, WO95/24475 was publicly available on 14 September 1995, less than one year before the filing date of the claimed invention and therefore does not qualify as proper prior art.

Titball *et al.*-'31 describes the production of a recombinant F1, but not the production of a F1 fusion protein. In Titball WO 95/18231, a recombinant DNA, or plasmid pFGAL2a, is made where F1 is cloned downstream from a lacZ promoter. The construct is described on page 3, last paragraph, continuing on page 4, and in SEQ ID NO:4, page 6 of the reference, and in claims 14 and 15 of the reference. Another construct, pFS1G3a, described in the reference on

page 10, encodes for F1 in front of the *E.coli* LTB signal sequence. The constructs were then transfected into a Salmonella host and the host containing the constructs used for immunization. No description of a F1 fusion protein is provided where F1 is fused to lacZ or to any other protein.

Leary et al., 1995, describes a V antigen as a fusion with glutathione S-transferase but does not describe or suggest an F1 fusion, or an F1-V fusion protein.

Since the references cited, alone or in combination, do not provide guidance for producing a F1 fusion protein or a F1-V fusion protein, none of the references, alone or in combination, render the invention obvious. Reconsideration and withdrawal of the rejection is respectfully requested.

All objections and rejections have been addressed. This application is believed to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as Express mail with Express Mail label no. EL688459577US in an envelope addressed to the Commissioner of Patents, Washington, D.C. 20231 on April 9, 2001.

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